

zole, omeprazole or pantoprazole (the QALY gains were 0.0002, 0.0003 and 0.0003, respectively). There were also marginal cost savings achieved by esomeprazole (1.23 EUR versus lansoprazole, 2.27 EUR versus omeprazole and 1.51 EUR versus pantoprazole), therefore esomeprazole was projected to have a dominant position versus other PPIs in the cost-effectiveness analysis. **CONCLUSIONS:** Esomeprazole provides greater effectiveness at a lower cost compared with other PPIs currently reimbursed in Poland in the treatment of GERD.

#### PGI21

##### EVALUATION OF THE COST EFFECTIVENESS OF RIFAXIMIN- $\alpha$ 550MG IN THE REDUCTION OF RECURRENCE OF OVERT HEPATIC ENCEPHALOPATHY IN SWEDEN

Poole CD<sup>1</sup>, Berni E<sup>2</sup>, Conway P<sup>3</sup>, Radwan A<sup>4</sup>, Currie CJ<sup>1</sup>

<sup>1</sup>Cardiff University, Cardiff, UK, <sup>2</sup>Pharmatelligence, Cardiff, UK, <sup>3</sup>Norgine Ltd, Harefield, UK,

<sup>4</sup>Norgine Ltd, Uxbridge, UK

**OBJECTIVES:** Hepatic encephalopathy (HE) is associated with high morbidity and mortality. Rifaximin- $\alpha$  550mg reduces the recurrence of episodes of overt HE, and hospital utilisation. We characterised the cost effectiveness of rifaximin- $\alpha$  550mg versus standard care (lactulose) in patients with liver cirrhosis in Sweden. **METHODS:** This economic evaluation used a Markov state transition model. The outcome metric was the ICER, derived from estimates of the cost/QALYs. The payer perspective was that of the Swedish healthcare system. Outcome data were from two rifaximin- $\alpha$  550mg trials. Population outcome data were from a complementary study of patients with liver cirrhosis treated in Sweden. Swedish Costs data (2012) were derived from published sources. Health-related utility was estimated indirectly from disease-specific quality of life RCT data. The time horizon was five years. Costs and benefits were discounted at 3.5%. Extensive sensitivity analyses were carried out. Real world data were also applied into the model for length of stay in hospital and the number of admissions. **RESULTS:** The average cost of the included elements of care was SEK302,520 (€32,667) for rifaximin- $\alpha$  550mg and SEK393,777 (€42,522) for lactulose, a difference of -SEK91,257 (-€9,854). The corresponding values for benefit were 2.38 QALYs/person and 1.83 QALYs/person, respectively, a difference of 0.55 QALYs over the five year period. This translated into a dominant base-case ICER at five years, meaning that rifaximin- $\alpha$  550mg was both less costly and more beneficial. Key parameters that impacted the ICER included length of stay in hospital and the number of admissions to hospital. Evaluation to 10 years also resulted in a dominant ICER, although the lifetime ICER was SEK5,918 (€639) per QALY. **CONCLUSIONS:** In Sweden, treatment with rifaximin- $\alpha$  550mg in patients with recurrent HE in the context of liver cirrhosis was cost effective compared to standard care, by reducing episodes of overt HE.

#### PGI22

##### ECONOMIC ASSESSMENT OF ELTROMBOPAG IN THE TREATMENT OF THROMBOCYTOPENIA IN ITALY

Romano F<sup>1</sup>, Ruggeri M<sup>1</sup>, Coretti S<sup>1</sup>, Giannini EG<sup>2</sup>, Sacchini D<sup>3</sup>, Annicchiarico BE<sup>4</sup>, Marchetti R<sup>5</sup>, Rodeghiero F<sup>6</sup>, Lidonnici D<sup>7</sup>

<sup>1</sup>ALTEMS, Università Cattolica del Sacro Cuore (UCSC), Postgraduate School of Health Economics

and Management, Rome, Italy, <sup>2</sup>San Martino University Hospital – National Cancer Research

Institute, University of Genoa, Genoa, Italy, <sup>3</sup>Institute of Bioethics, Università Cattolica del

Sacro Cuore, Rome, Italy, <sup>4</sup>Internal Medicine and Gastroenterology Unit, “A. Gemelli” General

Hospital, Università Cattolica del Sacro Cuore, Rome, Italy, <sup>5</sup>Technology and Clinical Engineering

Assessment Unit, “A. Gemelli” General Hospital, Catholic University of the Sacred Heart, Rome,

Italy, <sup>6</sup>Cell Therapy and Haematology Department, San Bortolo Hospital, Vicenza, Italy, <sup>7</sup>MA

Provider, Milano, Italy

**OBJECTIVES:** This study aimed to estimate the cost-effectiveness ratio of eltrombopag in the treatment of thrombocytopenia during antiviral therapy (AVT) in HCV-patients with advanced liver disease (ALD) in Italy. **METHODS:** The economic assessment was conducted according to a Markov model, which enabled the evolution of hypothetical cohorts of patients undergoing different diagnosis and treatment protocols and the respective costs and benefits to be quantified. Three alternative scenarios were set up: 1) eltrombopag treatment in both enabling phase and during AVT; 2) no eltrombopag and no AVT; 3) no eltrombopag treatment and administration of a reduced dose of peg-IFN (according to platelet count), and no peg-IFN treatment for patients with the lowest platelet count. Parameter uncertainty and robustness of the results were assessed through a one-way sensitivity analysis and a multivariate probabilistic sensitivity analysis. **RESULTS:** The results demonstrate that scenario 1 is associated with a cost per QALY of €30,020.94 in comparison with scenario 2. The ICER reaches a value of 2,752.44 €/QALY when scenario 1 is compared with scenario 3. The ICERs therefore are considered sustainable considering the threshold value generally taken into account by NICE (20,000–40,000 €/QALY). **CONCLUSIONS:** The use of eltrombopag in thrombocytopenic HCV-patients can increase sustained virological response, leading to a reduction in disease progression and thus a drop in the number of patients with ALD. Preventing the onset of complications and acting early to reduce the incidence of complex conditions that absorb more resources thus seems a rational choice that is consistent with the patient's preferences and the needs of the healthcare system. This economic assessment suggests that eltrombopag administration is indicated.

#### PGI23

##### STUDY ON COST-EFFECTIVENESS ANALYSIS FOR ULCERATIVE COLITIS TREATMENT: A SYSTEMATIC REVIEW OF LITERATURE FROM 2004-2014

Yamabe K<sup>1</sup>, Hiroi S<sup>1</sup>, Inoue S<sup>2</sup>, Kobayashi M<sup>2</sup>

<sup>1</sup>Takeda Pharmaceutical Company Ltd., Tokyo, Japan, <sup>2</sup>CRECON Medical Assessment Inc., Tokyo, Japan

**OBJECTIVES:** Ministry of Health, Labour and Welfare of Japan aims for the introduction of Health Technology Assessment in FY2016. Compared to foreign countries, a lack of resources for conducting the analysis has been pointed out in Japan. However, pharmaceutical and medical device industries are urged to seek practical approaches utilizing best available resources. The objective of this study was to

review articles for cost-effectiveness studies of ulcerative colitis (UC) and to evaluate analytical approaches that can be applied to Japanese environment. **METHODS:** The literature search was conducted in MEDLINE and Jdram III. Inclusion criteria are studies of 1) treatment for UC, 2) cost-effectiveness analysis (CEA), 3) published in the past 10 years. Studies were assessed for the followings: country, model structure and simulation method, time horizon, perspective, source of key parameters, results, and key drivers determined from sensitivity analysis. **RESULTS:** Nine studies were reviewed in details. Markov (6 articles) and decision tree (2 articles) models were adopted, and time horizon varied from 12 weeks of clinical trial periods to lifetime. Studies additionally considering surgery and treatment costs of colorectal cancer referred to other studies or official medical fees. Utility scores were referred to other studies (9 articles). Disutility of surgery was estimated based on assumptions. Parameters which became key drivers for these analyses varied among studies. **CONCLUSIONS:** Data collection methods adopted in prior studies were applicable to CEA for UC in Japan. Cost data can be obtained not only from questionnaire survey to doctors but commercial database. Because evidence on utility scores of Japanese population is still limited, further studies will be needed, especially on patients in different phases of UC treatment.

#### PGI24

##### EVALUATING THE COST-EFFECTIVENESS OF PROLONGED-RELEASE TACROLIMUS RELATIVE TO IMMEDIATE-RELEASE TACROLIMUS IN LIVER TRANSPLANT PATIENTS BASED ON DATA FROM ROUTINE CLINICAL PRACTICE

Muduma G<sup>1</sup>, Odeyemi IA<sup>1</sup>, Pollock RF<sup>2</sup>

<sup>1</sup>Astellas Pharma Europe Ltd, Chertsey, UK, <sup>2</sup>Ossian Health Economics and Communications

GmbH, Basel, Switzerland

**OBJECTIVES:** As of 2014, there were approximately 8,300 patients with a functioning liver transplant in the UK Transplant Registry, with 880 liver transplants performed in 2013–14 alone. As the number of surviving liver transplant recipients continues to increase, healthcare expenditure in these patients should be periodically reviewed to maximize value for money. With tacrolimus representing the current cornerstone of post-transplant immunosuppressive therapy, the present study objective was to evaluate the cost-effectiveness of prolonged-release (PR) tacrolimus versus immediate-release (IR) tacrolimus. **METHODS:** A model was developed in Microsoft Excel to evaluate the cost and effectiveness of immunosuppressive regimens in liver transplant recipients. The model captured costs associated with immunosuppressive medications, retransplantation and acute rejection. Three-year patient and graft survival data were taken from a recent retrospective European registry analysis and initial dose data were taken from the prescribing information. Costs were taken from the British National Formulary and the National Health Service National Tariff and expressed in 2014 pounds sterling. **RESULTS:** Over a 3 year time horizon, the number needed to treat (NNT) with PR tacrolimus relative to IR tacrolimus was ~13 to avoid one graft loss and 17 to avoid one death. The model was sensitive to dosing assumptions, with incremental cost estimates varying between a saving of GBP 2,236 per treated patient, assuming the same dosing of PR and IR (per kilogram bodyweight) and an increase of GBP 781 using RCT dose data. **CONCLUSIONS:** Data from a recent analysis of routine clinical practice data in liver transplant recipients on PR and IR tacrolimus showed significant differences in long-term graft survival in favor of PR tacrolimus. Modeling these data in a UK population showed that, over a three-year time horizon one graft would be saved for approximately every 13 patients treated with PR tacrolimus with minimal impact on costs.

#### PGI25

##### COST EFFECTIVENESS OF RIFAXIMIN- $\alpha$ 550MG IN THE REDUCTION OF RECURRENCE OF OVERT HEPATIC ENCEPHALOPATHY IN UNITED KINGDOM

Berni E<sup>1</sup>, Poole CD<sup>2</sup>, Conway P<sup>3</sup>, Radwan A<sup>4</sup>, Currie CJ<sup>2</sup>

<sup>1</sup>Pharmatelligence, Cardiff, UK, <sup>2</sup>Cardiff University, Cardiff, UK, <sup>3</sup>Norgine Ltd, Harefield, UK,

<sup>4</sup>Norgine Ltd, Uxbridge, UK

**OBJECTIVES:** Hepatic encephalopathy (HE) is associated with high morbidity and mortality. Rifaximin- $\alpha$  550mg reduces the recurrence of episodes of overt HE. We determined the cost effectiveness of rifaximin- $\alpha$  550mg versus standard care (lactulose) in patients with cirrhosis in the UK. **METHODS:** This economic evaluation used a Markov state transition model. The outcome metric was the ICER, derived from estimates of the cost/QALYs. The payer perspective was that of UK National Health Service. Outcome data were from two rifaximin- $\alpha$  550mg trials. Population outcome data were from a complementary study of patients with liver cirrhosis treated within the NHS. UK Costs data (2012) were derived from published sources. Health-related utility was estimated indirectly from disease-specific quality of life RCT data. The time horizon was five years. Costs and benefits were discounted at 3.5%. Extensive sensitivity analyses were carried out. Real world data describing the use of rifaximin- $\alpha$  550mg in the UK NHS were also applied into the model for length of stay in hospital and the number of admissions. **RESULTS:** The average cost for the included elements of care was £22,971 for rifaximin- $\alpha$  550mg and £23,545 for lactulose, a difference of -£573. The corresponding values for benefit were 2.36 QALYs/person and 1.83 QALYs/person, respectively, a difference of 0.53 QALYs. This translated into a dominant base-case ICER. Key parameters that impacted the ICER included length of stay in hospital and the number of admissions to hospital. Evaluation to 10 years and lifetime resulted in ICERs of £4,470/QALY and £7,215/QALY, respectively. **CONCLUSIONS:** Rifaximin- $\alpha$  550mg in patients with recurrent HE in the context of liver cirrhosis represented good value for money compared to standard care, by reducing episodes of overt HE, the likelihood of hospital admission and hospital length of stay.

#### PGI26

##### COST-EFFECTIVENESS OF EVEROLIMUS IN LIVER TRANSPLANTATION

Mendes LR, Haddad L, D'albuquerque LA

Sao Paulo University, Sao Paulo, Brazil

**OBJECTIVES:** The purpose of this study was to analyze the cost-effectiveness of the association of everolimus (EVR) with reduced tacrolimus doses (rTAC) in liver transplantation patients with renal dysfunction. **METHODS:** A cost-effectiveness analysis